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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,299	03/14/2001	Qi Xu	901033-1005	3133

22145 7590 11/22/2004

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EXAMINER


SINGH, SUNIL

ART UNIT PAPER NUMBER

3673

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/808,299	XU ET AL	
	Examiner	Art Unit	
	Sunil Singh	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 45-47 and 57-60 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 45,46,57-58,60 is/are rejected.
- 7) ☐ Claim(s) 47 and 59 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Upon further consideration, the allowability of claims 58 and 60 previously indicated has now been withdrawn.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 45-46, 57-58, 60 are rejected under 35 U.S.C. 102(b) as being anticipated by French document (FR 2367148).

French document '148 discloses a VIV reduction mechanism comprising a plurality of columnar segments (see abstract, Fig. 3), each of the segments having a discontinuity provided by a notch formed by a radially inward-directed wall thickness discontinuity of the segment (see attached marked-up drawing Fig. 1a) and oriented substantially parallel to the axis of the structure, the segments being arranged with respect to each other so that the surface discontinuity of each segment is circumferentially displaced from the surface discontinuity of an adjacent segment, whereby the surface discontinuities of the plurality of segments define a discontinuous, stepwise, approximately helical pattern (see abstract). (Re claim 57), the discontinuities are spaced equidistantly around the exterior surface of the columnar segment (see Fig. 1a). (Re claim 58), the columnar segment has a radius that varies in length (see attached marked up Fig. 1a) between each two successive discontinuities.

3. Claims 45 is rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Application document (0188358).

The examiner's position is that the structure shown in Figure 6 would inherently affect VIV forces acting on the marine structure.

Allowable Subject Matter

4. Claims 47 and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

It should be noted that if applicant were to amend claim 45 to incorporate the language of claim 58 in addition to further define that the "segment has a radius that varies continuously in length between each two successive discontinuities" then claim 45 would be allowable. It should be noted that claim 59 would not then be able to depend from claim 45 since this would be considered new matter. Claim 60 would be allowable if it were to be amended to further define that the "segment has a radius that varies continuously in length between each two successive discontinuities". It should be noted that such amendment has basis in Figures 19, 20, 5, page 18 lines 5+ of current application.

Response to Arguments

5. Applicant's arguments filed 10/29/04 have been fully considered but they are not persuasive. Applicant argues that French document '148 shows projections extending outwardly from the surface of a columnar segment. While applicant is entitled to his/her

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interpretation of the drawings shown in French document '148, it is unclear why only such an interpretation is valid. For example, the examiner looks at the same Figures (e.g. Figs. 1, 1a, 3) and sees a cylindrical segment with spaced notches therein. There is no claimed structural element precluding the interpretation that the space between the ribs can be considered as the discontinuities (meaning the notches).

6. In response to applicant's argument that EPO document '358 does not teach a VIV mechanism, it should be noted that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). Once again there is no claimed structural element that precludes EPO '358 from anticipating claim 45. The notches shown in Figure 6 (EPO '358) would inherently perform VIV reduction in as much the notches shown in Figs. 9-18 (applicant's disclosure) can do for applicant's mechanism.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil Singh whose telephone number is (703) 308-4024. The examiner can normally be reached on Monday through Friday 8:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703) 308-2978. The fax phone

FIG.:1

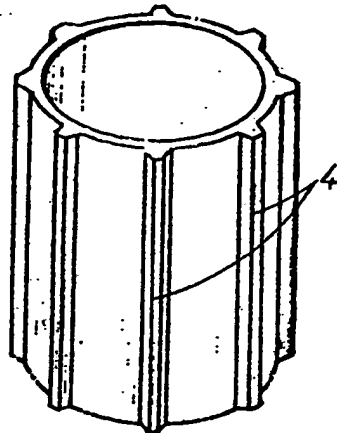


FIG.:3

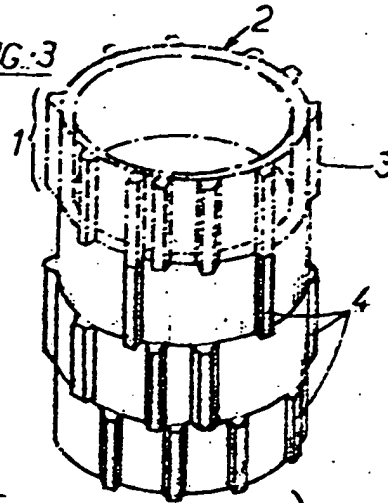


FIG.:1a

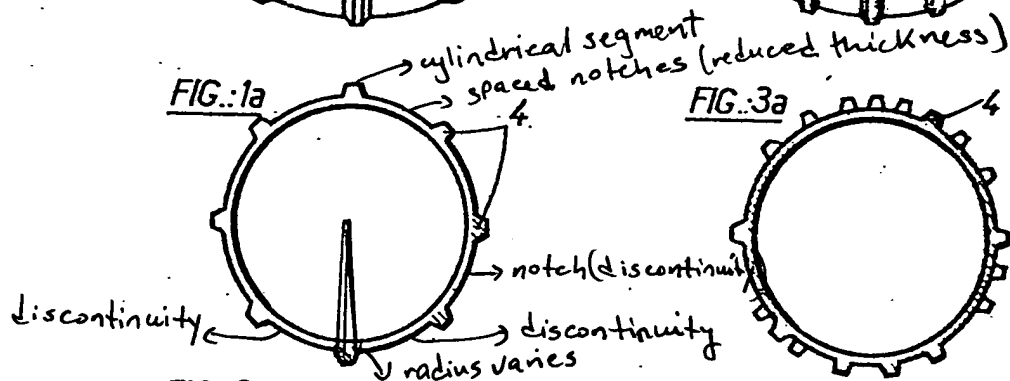


FIG.:3a

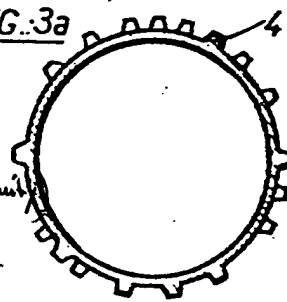


FIG.:2

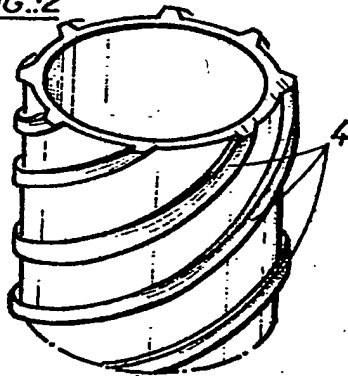


FIG.:4

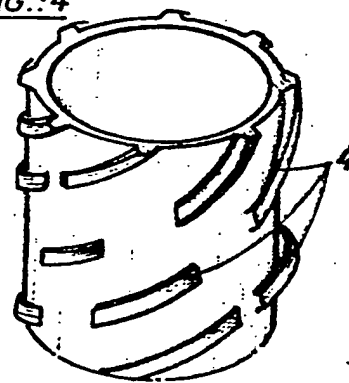


FIG.:2a

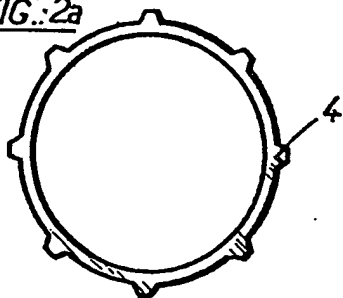
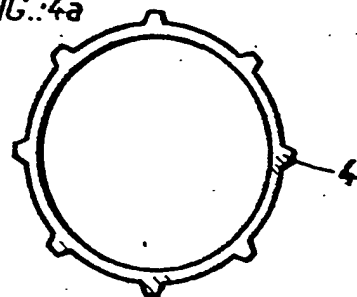


FIG.:4a



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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sunil Singh
Primary Examiner
Art Unit 3673



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11/15/04